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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/588,833	06/07/2000	RAJ BRIDGELALL	SYM-7	9487
29906	7590	04/06/2005	EXAMINER	
INGRASSIA FISHER & LORENZ, P.C.			HOLLOWAY III, EDWIN C	
7150 E. CAMELBACK, STE. 325				
SCOTTSDALE, AZ 85251			ART UNIT	PAPER NUMBER
			2635	

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/588,833

Applicant(s)

BRIDGELALL, RAJ

Examiner

Edwin C. Holloway, III

Art Unit

2635

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 23-28 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 1-16 is/are allowed.  
6) ☒ Claim(s) 23-28 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

Art Unit: 2635

***Examiner's Response***

1. In response to applicant's amendment filed 12-21-04, all the amendments to the specification and claims have been entered. The examiner has considered the new presentation of claims and applicant's arguments in view of the disclosure and the present state of the prior art. And it is the examiner's opinion that claims 23-28 are unpatentable for the reasons set forth in this Office action:

***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 23 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ayers (US 4143369) in combination with Eberhardt (US 6107920) or Hatano (US 6069564). Ayers discloses an RF tag with at least two antenna (25, 26, 26a) and switching mechanism (24, 32) activated by remote signal 69 from radar 29 to switch between antennas. See col. 1 lines 19-53, col. 5 lines 41-47, col. 6 lines 19-23 and col. 8 lines 7-14. Ayers lacks the antennas formed on a flexible substrate. Eberhardt discloses an analogous art RFID tag with antennas 24/124/424 and 26/126/426 formed on a flexible substrate 16/116/416 in figs. 1 5 and 15. See col. 3 line 56 - col. 4 line 44 and col. 9 line 66 - col. 10 line 32. This antenna substrate is foldable into a

Art Unit: 2635

package, such as a box or envelope, so the antennas are not parallel and increases read range and reduces orientation sensitivity (col. 2 lines 33-36 and col. 11 lines 21-32). Hatano discloses an analogous art RFID device with plural antennas 44 and 46 or 62a-e formed on a flexible substrate 48 or 61 that is folded to form antennas at 90 degrees (orthogonal). See figs. 4A-4B and 5A-5B and col. 4 lines 35-67. Switching means 55 to select antennas is disclosed in col. 5 line 60 - col. 6 line 55. This structure allows enhanced transmission coverage (col. 3 lines 20-26) while allowing a single compact structure that may be placed into cramped location.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in flexible substrate of Eberhardt or Hatano in the apparatus of Ayers because Eberhardt and Hatano are directed to analogous art multiple antenna RFID devices that teach advantages of forming antennas on a flexible substrates such as allowing folding into a package, such as a box or envelope, so the antennas are not parallel and increases read range and reduces orientation sensitivity or allowing enhanced transmission coverage while forming a single compact structure that may be placed into cramped locations. Eberhardt and Hatano are alternatively applied because Eberhardt clearly defines the device as a tag,

Art Unit: 2635

while Hatano clearly discloses inclusion of an antenna switch.

4. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ayers (US 4143369) in combination with Eberhardt (US 6107920) or Hatano (US 6069564) as applied above in combination with Lester (US 3805265). Lester discloses a locating system using pagers and ultrasonic signals as an alternative to microwave or RF signals. See col. 2 line 22 - col. 3 line 63, col. 5 lines 8-31 and claims 17-22. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included ultrasonic signals in Ayers in view of Lester disclosing use of a ultrasonic signals as an alternative to microwave or RF signals in communication with a pager for locating persons or objects in a system that is simple in design, easy to manufacture and efficient reliable in operation.

5. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ayers (US 4143369) in combination with Eberhardt (US 6107920) or Hatano (US 6069564) as applied above in combination with Caswell (US 4636950). Caswell discloses an inventory management and tracking system with plural RFID/RFDC devices located in sections of a warehouse and controlled by polling signals from host computer 70. See col. 17 line 19 - col. 8 line 24. It would have been obvious to one of ordinary

Art Unit: 2635

skill in the art at the time the invention was made to have included in Ayers the features of Caswell in order to provide inventory management. Alternatively, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the in Caswell the tag with antenna switching mechanism of Ayers for simple antenna diversity switching.

***Allowable Subject Matter***

6. Claims 1-16 are allowed.

7. The following is a statement of reasons for the indication of allowable subject matter: Claims 1-16 are allowable over the prior art of record because, as argued by applicant, the prior art lacks two response signals from the same interrogation signal from two marker tags located at two known locations within the interrogation range required by applicant's amendments to independent claims 1 and 9.

***Response to Arguments***

8. Applicant's arguments filed 12-21-04 have been fully considered but they are not persuasive. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some

Art Unit: 2635

teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837

F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958

F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the

rejections include suggestion or motivation to combine, such as

Eberhardt teaching a flexible antenna substrate 16/116/416 in

figs. 1, 5 and 15 that is foldable into a package, such as a box

or envelope, so the antennas are not parallel and increases read

range and reduces orientation sensitivity (col. 2 lines 33-36

and col. 11 lines 21-32). Hatano teaches plural antennas 44 and

46 or 62a-e formed on a flexible substrate 48 or 61 that is

folded to form antennas at 90 degrees (orthogonal). Switching

means 55 to select antennas is disclosed in col. 5 line 60 -

col. 6 line 55. This structure allows enhanced transmission

coverage (col. 3 lines 20-26) while allowing a single compact

structure that may be placed into cramped location (col. 6 lines

35-39).

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this

Art Unit: 2635

action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

#### **CONTACT INFORMATION**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact an Electronic Business Center (EBC) representatives at 703-305-3028 or toll free at 866-217-9197 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at [ebc@uspto.gov](mailto:ebc@uspto.gov). The Patent EBC is a complete customer service center that supports all Patent e-business products and service applications. Additional information is available on the Patent EBC Web site at <http://www.uspto.gov/ebc/index.html>.

Any inquiry of a general nature should be directed to the Technology Center 2600 receptionist at (571) 272-2600.

Facsimile submissions may be sent via fax number (703) 872-9306 to customer service for entry by technical support staff. Questions regarding fax submissions should be directed to customer service voice line (703) 306-0377.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edwin C.



Art Unit: 2635

Holloway, III whose telephone number is (571) 272-3058. The examiner can normally be reached on M-F (8:30-5:00). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on (571) 272-3068.

EH  
4/3/05

  
**EDWIN C. HOLLOWAY, III**  
**PRIMARY EXAMINER**  
**ART UNIT 2635**